Title: LOW LOSS TUNABLE FERRO-ELECTRIC DEVICE AND METHOD OF CHARACTERIZATION

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Approved for entry 4/8/05

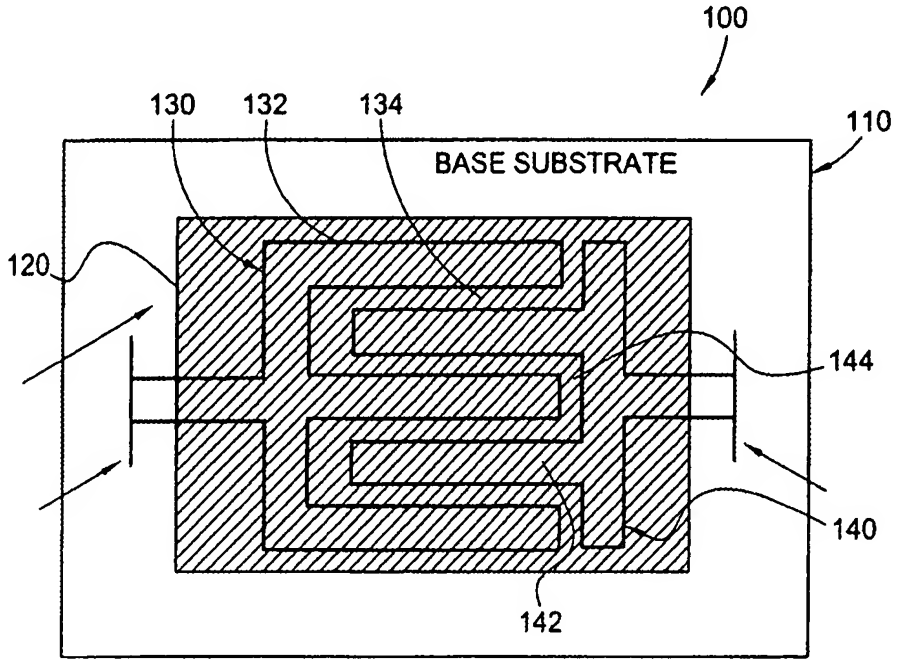

FIG. 1

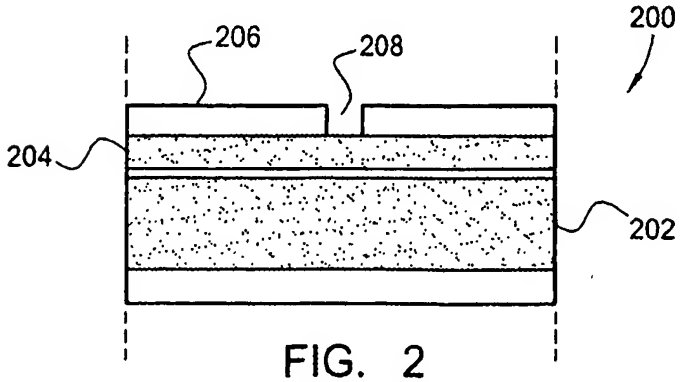

FIG. 2

Approved for entry DT 1/18/05

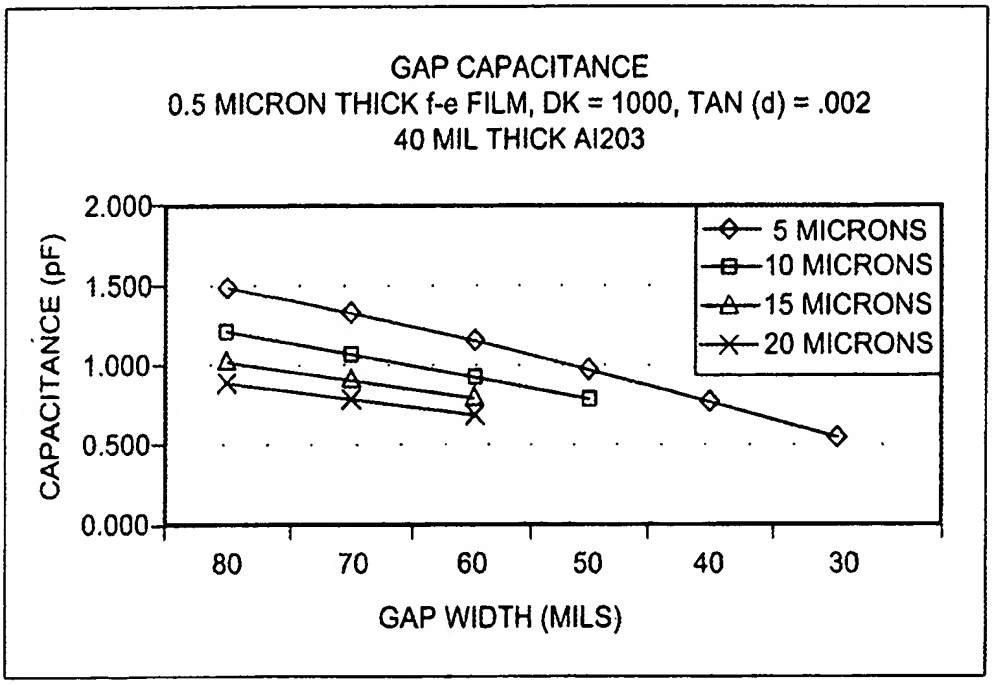

FIG. 3

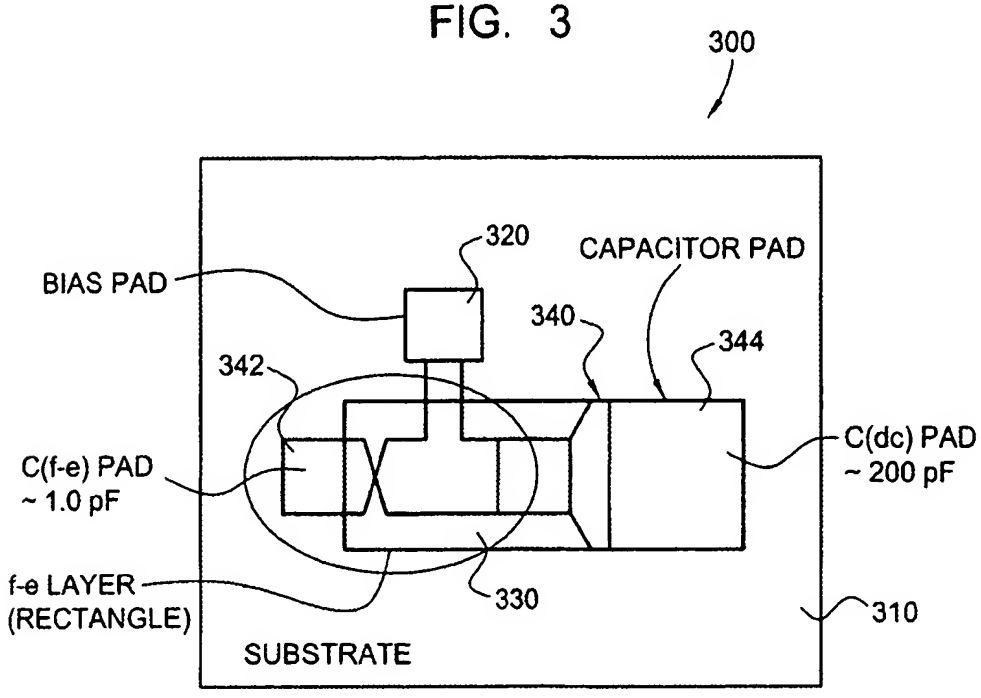

FIG. 4

Approved for entry
DT 9/8/05

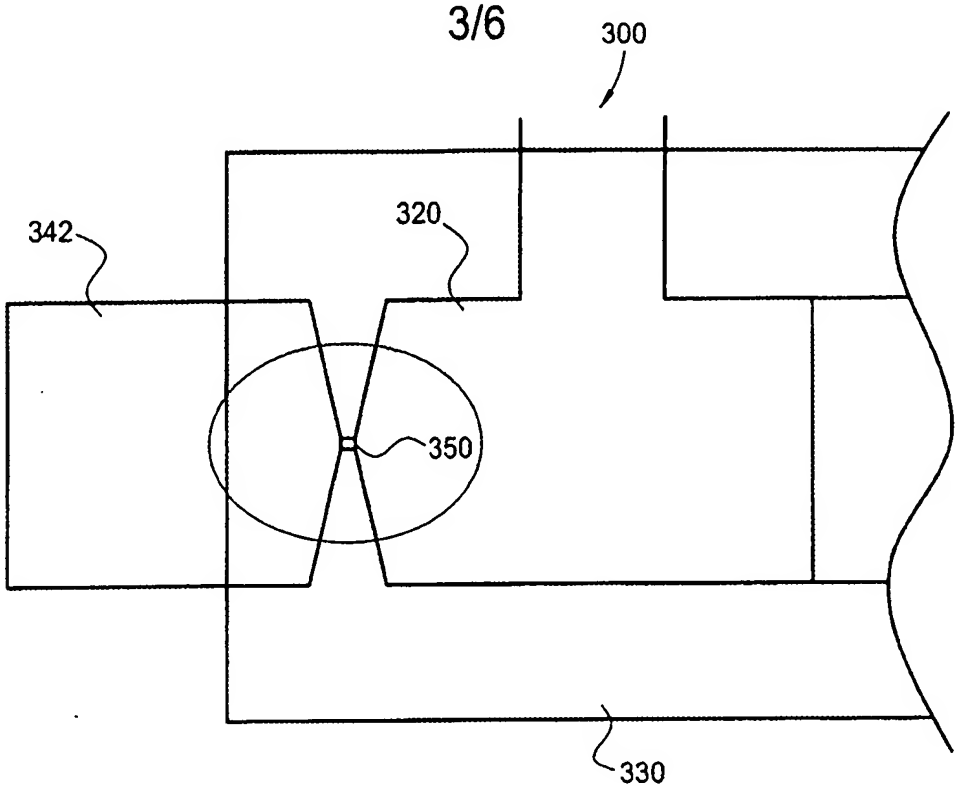

FIG. 5

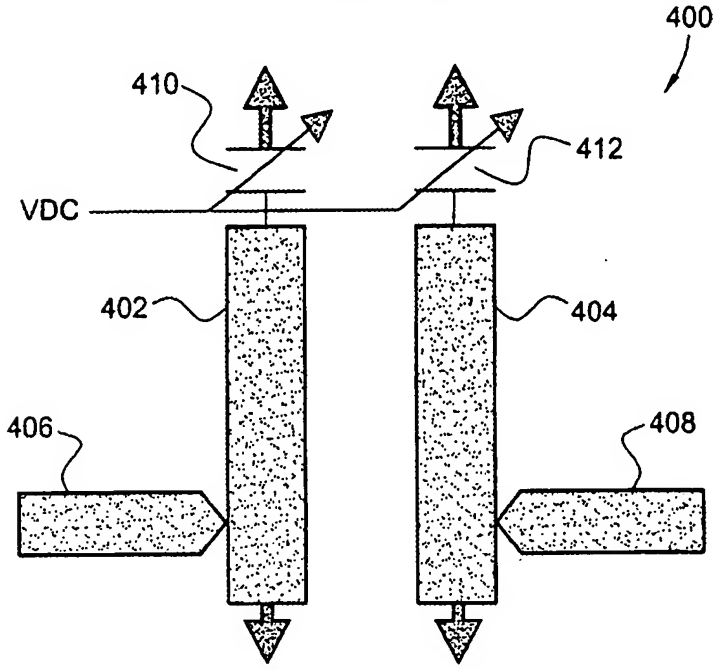

FIG. 6

Approved for entry DI 4/9/05

KWC SAMPLE #	NRL SAMPLE #	NRL CAPACITOR (pF)	NRL Q (0 VDC)	KWC CAP (pF)	KWC Q (0 VDC)	KWC Q (40 VDC)	f_o (MHz)	TUNING (MHz/V)	COMMENTS
01	NRL # 1-A	1.012	10.1	0.99	190		1622	~ 1.0	
02	NRL # 1-A	1.012	10.1	0.96	183		1605	~ 1.0	
01	NRL # 3-A	1.004	10.1	0.90	101	123	1610	~ 1.0	
02	NRL # 2-A	0.76	10.2	0.75	200		1900	~ 0.5	
06	NRL # 2-A	0.76	10.2	0.72	205			~0.5	DAMAGED, HIGH V
05	NRL # 2-A	0.76	10.2	0.71	196	200	1912	~ 0.5	

FIG. 7

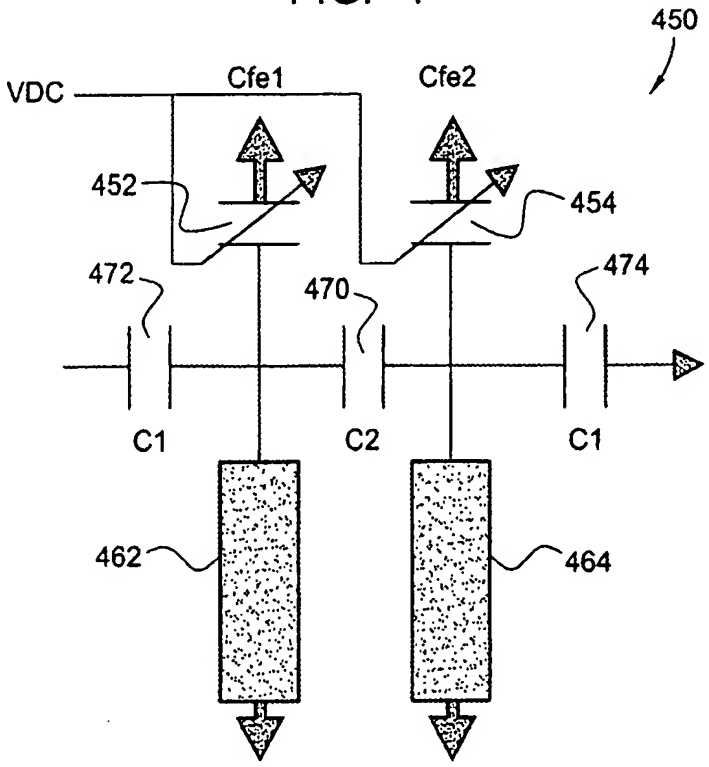

FIG. 8

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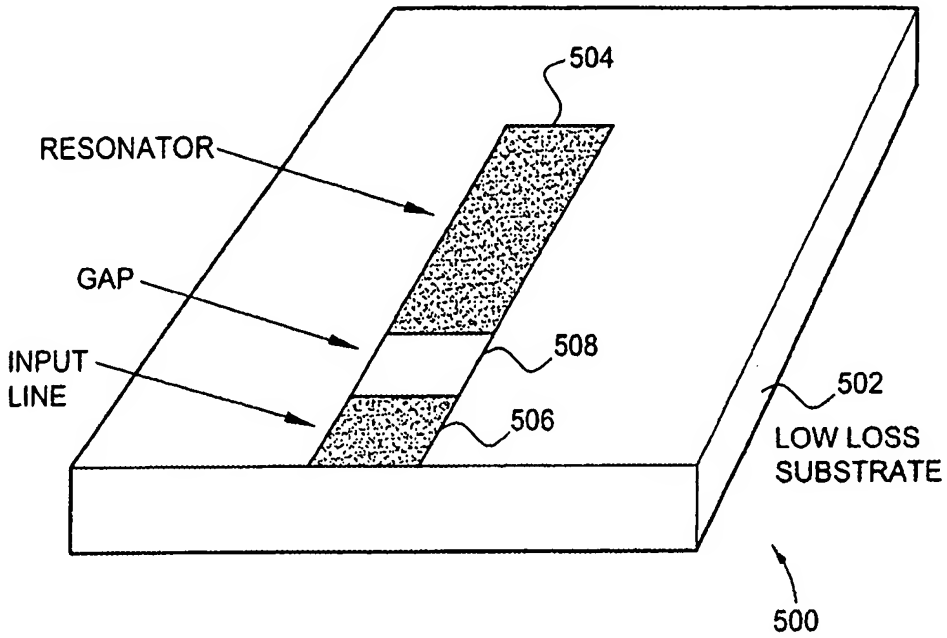

FIG. 9

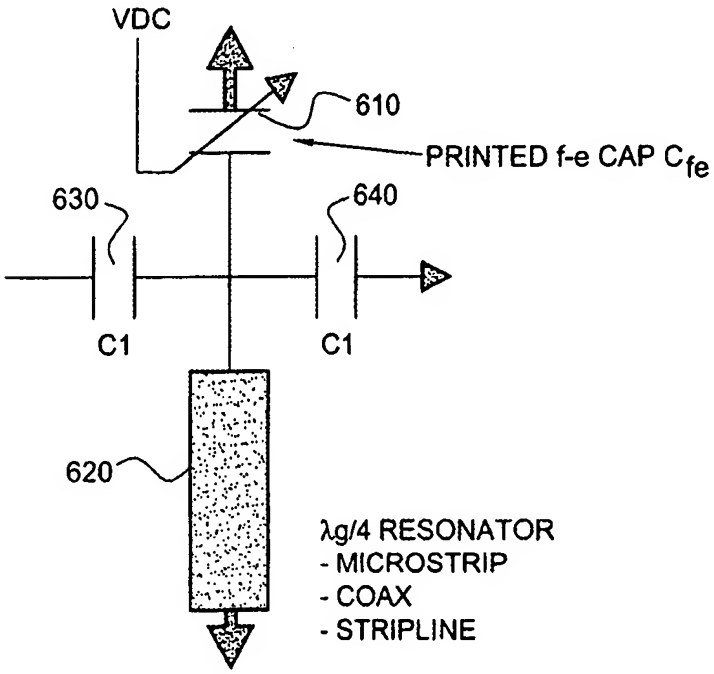

FIG. 10a

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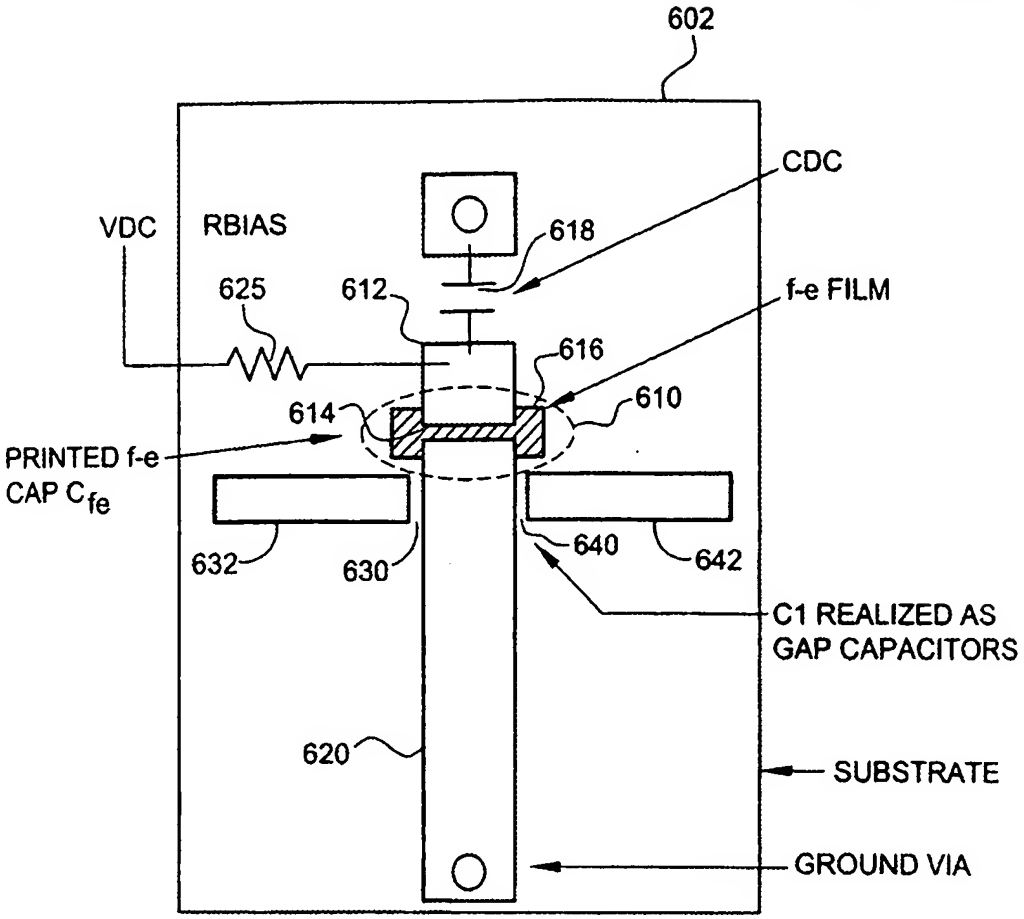
FIG. 10b



PLANAR REALIZATION OF SINGLE RESONATOR BPF.
CAN BE REALIZED WITHOUT VIA'S USING GROUND PLANES
& A WILTRON TEST FIXTURE.

EXAMPLE OPERATING PARAMETERS

Temperature (degrees C)	Frequency (GHz)
Example 1: -50 to 100	Example 1: 0.25 to 7.0
Quality Factor (Q)	Example 2: 0.8 to 7.0
Example 1: > 80	Example 3: 0.25 to 2.5
Example 2: > 180	Example 4: 0.8 to 2.5
Capacitance (pF)	
Example 1: 0.3 to 3.0	
Example 2: 0.5 to 1.0	
Example 3: 0.8 to 1.5	